



Gully protection measures undertaken as part of a community initiative in Metar, Spitamen District. Photo: ACTED 2015

## POLICY MESSAGE

- *Effective watershed management critically depends on good land and water governance. Rules, processes and structures for decision-making, implementing and maintaining good land and water use practices are needed to manage watersheds sustainably.*
- *Decision-making at watershed level requires platforms for coordination between stakeholders, especially upstream and downstream land and water users.*
- *Watershed action plans define the co-management of land and water resources. Sustainable solutions that benefit the whole watershed have priority and need to be negotiated among all stakeholders taking into account ecological, economic and social aspects.*

# Pathways to effective integrated watershed management

Integrated watershed management (IWSM) through sustainable land management practices is a crucial way to reduce disaster risk, improve water quality and increase productivity, thereby contributing to better livelihoods. Within the context of the ongoing agricultural and water reforms in Tajikistan, relevant laws have been revised (e.g. forest code, pasture law). The success of such reforms is contingent on participatory and transparent planning and implementation processes at the different administrative levels represented in a river basin, and may even include transboundary partners of neighbouring countries). This policy brief outlines relevant insights from the Swiss-funded integrated watershed management initiatives in Tajikistan.

## The role of governance in integrated watershed management

Tajikistan is a disaster-prone country. Unstable mountain slopes are prone to extreme rainfall, which causes floods, debris flows and landslides. Poor management or overexploitation of land exacerbates

these disaster risks. With soil degradation in the upper and middle zones of the watershed reducing the capacity to absorb and store rainfall, interventions need to focus on vegetation cover as well as improved pasture and forest management. These actions can generate cost-effective benefits across the watershed

by increasing productive capacity and reducing the risk to downstream areas. If watershed management is effectively and jointly implemented, people will benefit from healthy land and clean water resources, reduced maintenance costs for infrastructure, improved human and animal health, and potential reduction of disputes over land and water resources.

Effective watershed management is not possible if the implementation of improved management practices is limited to isolated actions, or if land and water use decisions are heavily influenced by differing interests and priorities. It is therefore crucially important to improve governance, especially in land and water management, to achieve improved livelihoods and sustainable production in watersheds.

### Definition of land governance

“Land governance concerns the rules, processes and structures through which decisions are made about access to land and its use, the manner in which the decisions are implemented and enforced, and the way that competing interests in land are managed.”

*(Working Paper by FAO and UN-HABITAT, 2009)*

## PROJECT INFORMATION

### The Swiss Initiative for Integrated Watershed Management in Tajikistan

Since 2011, the Integrated Watershed Management Initiative has been under implementation in Tajikistan with Swiss funding. Projects integrating disaster risk reduction and IWSM are underway in Muminabad District, Rasht Valley, Ferghana Valley and Gorno-Badakhshan Autonomous Region. The knowledge management component is designed to provide state-of-the-art approaches and methods, while facilitating exchange among IWSM practitioners and decision-makers.

Comprehensive knowledge management supports evidence-based decision-making at multiple levels. This includes participatory community-based sustainable land management planning workshops, exchange and roundtable discussions about Tajikistan's Pasture Law, the development of an internet-based knowledge hub, as well as video resources and case study documentations from the database of the World Overview of Approaches and Technologies (WOCAT, [www.wocat.net](http://www.wocat.net))

IWSM is a complex intervention, as it requires coordinated management of water and land resources, often across administrative borders. In a small watershed or sub-watershed, coordination within a single administrative unit is possible. Larger watersheds may cross several such units, include parts of different provinces or even be transboundary. Coordination requires involvement of representatives from different administrative levels and even countries. This is a process involving a diversity of stakeholders, including land and water users, land managers or operators of infrastructure. Stakeholders are from governmental institutions and civil society; include individuals and associations, and are from both within and outside the watershed.

The transition from centralised to decentralised governance is still ongoing in Central Asian countries. This process is marked by a number of challenges for land and water resource management linked to property rights, institutional arrangements, legal frameworks still under revision, and enforcement of laws and regulations.

Addressing such challenges is necessary in order to fully operationalise water, land use and agricultural reforms and is crucial for the region's development, as watershed management plays a key role not only in protecting communities from disasters, but also in the long-term provisioning of water, food and energy resources that support people's livelihoods and well-being.

### Decision-making at the watershed level

Co-management based on a broad (formal and informal) multi-stakeholder approach as well as inclusive and transparent institutions is most suited to achieving effective IWSM. However, in Tajikistan there is a lack of such structures for managing integrated planning processes involving the different stakeholders at watershed level. Swiss-funded projects in Tajikistan are piloting IWSM structures and processes.

In Muminabad District, a steering committee and two civil society committees were established to coordinate activities in two small watersheds (Obishur ~77 km<sup>2</sup>, and Chukurak ~36 km<sup>2</sup>). The steering committee includes the heads of farmer organisations and Pasture User Unions, village heads, representatives of the women's organisation Zamzam, as well as relevant department heads of the Muminabad District Government. The civil society committees consists of land users coming from all the villages within the watershed, and the head of the jamoat. Both committees played a strong role in the planning and evaluation processes during the first phase of the project, and are increasingly taking ownership in the second phase.

Many of the watersheds in the Ferghana Valley are transboundary, as are the large Aksu (1165 km<sup>2</sup>) and Khoja-Bakirgan (2267 km<sup>2</sup>) watersheds that start in Kyrgyzstan and extend into Tajikistan. Decision-making

## AMBIGUITIES REGARDING RULES, PROCESSES AND STRUCTURES – THE EXAMPLE OF WATER INFRASTRUCTURE MAINTENANCE

While the state is the sole owner of water resources, the responsibility for maintaining and managing water infrastructure remains somewhat unclear. This is true across Tajikistan, for both the large irrigation systems in the lowlands as well as the small systems in the mountain regions. In many cases, Water Users Associations (WUAs) in both the lowlands and uplands are struggling to assume responsibility for damaged infrastructure. A proper inventory or assessment of the water infrastructure has not been conducted, barring full transfer of ownership to WUAs or communities. As a result, delegation of roles and responsibilities remains unclear, leading in some cases to parallel and/or duplicated structures, and hampering effective water management efforts, in particular between WUA members and non-members.



Maintenance of irrigation canals in the uplands (Photo: WUA Porshinev) and lowlands (Photo: Oytur Anarbekov)



Table 1: Approaches supporting the implementation of IWSM activities (IWSM project Muminabad, 2012)

Thematic field of IWSM activities	Land tenure type	Stakeholder group	Approaches supporting the implementation of IWSM activities
Pasture management	Communal	Livestock committees	Pasture management planning and implementation
Conservation agriculture	Private	Farmers, tractor drivers	Training and technical assistance
Tree planting	Private	Farmers	Financial support in the form of competitive grants for orchard establishment
Energy efficiency measures	Private	Women's group Zamzam	Promotion in schools and private households, training of masters for stove production
Mitigation structures for the protection of roads and canals	Public	Jamoat, district government, infrastructure department	Collaborative planning and financing

at watershed level not only requires linking the different administrative levels, but also facilitating transboundary cooperation. In the context of the National Water Resources Management in Tajikistan Project implemented by a consortium of Helvetas, ACTED and GIZ, the Watershed Management Working Group has been established to facilitate cooperation regarding specific issues related to the transboundary Aksu watershed. This working group functions as a semi-official transboundary cooperation platform and consists of stakeholders from all levels, including representatives from local authorities, relevant departments at district level, farmers (via WUAs), municipal authorities and community-based organizations (CBOs). This mixed composition is intended to facilitate and promote dialogue among all stakeholders. Cooperation at the local and oblast level is essential, and has been working well so far. Authorities have also been engaged in cooperative measures to support the project's efforts to decrease community vulnerability to natural hazards and enhance transboundary cooperation despite legal limitations.

### Managing competing interests

Ecological, economic and social aspects must be considered in order to ensure sustainable solutions. If the perspectives of different stakeholders are included, IWSM will achieve optimal results. Competing interests can be managed. This requires clear prioritisation of land and water management activities that are benefitting the whole watershed. Transparent negotiations are possible if all stakeholders agree on common objectives and criteria. It is important to involve different stakeholders in the discussions when selecting the most appropriate technology for a specific location in a watershed. A matrix enables multi-criteria assessment and allows for estimates on the cost-benefit

relations. This makes it possible to identify IWSM priorities that are jointly negotiated among watershed stakeholders.

### Watershed Action Plans

Watershed Action Plans (WAPs) describe the way in which decisions on improving land and water management for IWSM are implemented. While WAPs are based on voluntary implementation, integration of specific activities into sub-district and district level planning is important to leverage government involvement and establish synergies between government and watershed planning. The existing legal framework also provides a basis for establishing crucial self-governance bodies (e.g. WUAs, Pasture User Unions, public associations), or enforcing good land and water management practices.

The Muminabad WAPs, elaborated during the first phase of the IWSM project, provide specific approaches supporting the implementation of IWSM activities for each thematic field (see table 1). The approaches are tailored to the specific types of land tenure and stakeholder groups involved.

## DEFINITIONS

**Co-management** describes «partnership arrangements in which government, the community of local resource users, external agents (NGOs, academic and research institutions), and other resource stakeholders share the responsibility and authority for decision making over the management of a natural resource; it covers various partnership arrangements and degrees of power sharing and integration of local (informal, traditional, customary) and centralized government management systems» (Pomeroy in Meinzen-Dick, Knox, Di Gregorio, 2000)

**Land governance** concerns the rules, processes and structures through which decisions are made about access to land and its use, the manner in which the decisions are implemented and enforced, the way that competing interests in land are managed. (FAO, UN-HABITAT 2009)

**Tenure systems** define and regulate how people, communities and others gain access to natural resources, whether through formal law or informal arrangements. The rules of tenure determine who can use which resources, for how long, and under what conditions. They may be based on written policies and laws, as well as on unwritten customs and practices. (FAO 2012)

**Watershed management** is the integrated use of land, vegetation and water in a geographically discrete catchment or drainage area for the benefit of its residents, with the objective of maintaining the hydrological services that the watershed provides and of reducing or avoiding negative downstream or groundwater impacts (adapted from World Bank 2008).



Stakeholder negotiations based on jointly agreed criteria covering ecological, economic and social aspects in Garm, Rasht Valley. Photo: Bettina Wolfram, 2014

## IWSM CHAMPION PASTURE USER UNIONS MUMINABAD (PUUs)



**Davlatjon Zukhurov, PUU head in Muminabad district.** Photo: Hanspeter Liniger 2012

PUUs in Muminabad have been officially registered and are in possession of land user certificates for their village pastures. They were established in 2007 as livestock committees, and in accordance with the Pasture Law of the Republic of Tajikistan (2013) they have now been registered as PUUs. The PUUs are among the most active IWSM stakeholders in Muminabad. In order to increase the quality of the pastures, prevent soil erosion and reduce runoff, the PUUs introduced rotational grazing and created water points. The pastureland in the watershed was divided into different parts. Animals are allowed to graze for 5-8 days on each plot.

WOCAT documentation and videos of Pasture User Union activities:

Livestock Committee at Village Level

- Documentation: [https://qa.wocat.net/SummaryApproach.php?selected\\_language=english&selected\\_language\\_code=en&selected\\_id=269](https://qa.wocat.net/SummaryApproach.php?selected_language=english&selected_language_code=en&selected_id=269)
- Video: <https://www.wocat.net/en/knowledge-base/slm-videos/slm-approaches/category/slm-technology.html>

Rotational grazing supported by additional water points

- Documentation: [https://qt.wocat.net/qt\\_summary.php?lang=english&qt\\_id=148](https://qt.wocat.net/qt_summary.php?lang=english&qt_id=148)
- Video: [https://www.wocat.net/en/knowledge-base/slm-videos/single-video-page.html?tx\\_wocatvideo\[uid\]=11&cHash=34c6ce07dfb5380cd51e79ddd7d2ac18](https://www.wocat.net/en/knowledge-base/slm-videos/single-video-page.html?tx_wocatvideo[uid]=11&cHash=34c6ce07dfb5380cd51e79ddd7d2ac18)

## FURTHER READING

Legal documents of the Republic of Tajikistan:

- Water code
- Land code
- Forest code
- Pasture law

• Law on Water Users' Associations

<http://mmk.tj/ru/legislation/legislation-base/>

<http://faolex.fao.org/faolex/>

**FAO (2012)** Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. Food and Agriculture Organization of the United Nations, Rome, Italy. <http://www.fao.org/nr/tenure/voluntary-guidelines/en/>

**FAO, UN-HABITAT (2009)** Towards Improved Land Governance. Land Tenure Working Paper 11. Food and Agriculture Organization of the United Nations, Rome, Italy.

**FAO (2007)** Why Invest in Watershed Management? Food and Agriculture Organization of the United Nations, Rome, Italy. <http://www.fao.org/docrep/010/a1295e/a1295e00.HTM>

**Wolfgang B, Liniger HP, Nazarmavloev F (2014)** Integrated Watershed Management in Tajikistan. IWSM policy brief No1. University of Bern, Centre for Development and Environment (CDE), Berne, Switzerland. <http://msri-hub.ucecentralasia.org/node/5290>

**Water Agenda 21 (2011)** Watershed Management. Guiding Principles for Integrated Management of Water in Switzerland. Bern. <http://www.bafu.admin.ch/wasser/01444/08981/index.html?lang=en>

## POLICY IMPLICATIONS OF THE SWISS-FUNDED PROJECTS IN MUMINABAD, RASHT VALLEY AND FERGHANA VALLEY

Creating impact at the watershed level is a challenge. This is true for small watersheds in Muminabad, and even more so for the large transboundary watersheds of the Fergana Valley. Effective watershed management critically depends on good land and water governance for upscaling of sustainable land management practices across the watershed. Sustainability of IWSM and thus long-term disaster risk reduction effects depend on identifying ecologically sound, economically viable and socially acceptable solutions.

Decision-making at watershed level requires the establishment of stakeholder platforms for coordination among upstream and downstream land and water users, government institutions from different administrative levels, as well as associations and individual users. These working groups and committees rely on inclusivity, accountability and transparency, and therefore demonstrate how a broad (formal and informal) multi-stakeholder process supports effective IWSM.

Watershed action plans are prepared in a participatory manner and define co-management practices. Streamlining specific activities into sub-district and district level planning is important to leverage government involvement by making use of synergies between government and watershed planning.

In the case of both Water User Associations and Pasture User Unions, sustainable governance of land and water resources within a watershed cannot be achieved without public participation. Public participation can only be assured if there is trust in the rules, processes and structures, and one way to build trust is to involve land users into the discussions on and present them with information on the status of natural resources, specifically the state of land and water degradation and conservation.



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra  
Swiss Confederation  
Конфедерация Швейцария

**u<sup>b</sup>**

UNIVERSITÄT  
BERN

CDE  
CENTRE FOR DEVELOPMENT  
AND ENVIRONMENT



National  
Water Resources  
Management Project  
**HELVETAS ACTED giz**



AGA KHAN FOUNDATION



FOCUS HUMANITARIAN ASSISTANCE  
An initiative of the Aga Khan Development Network

**CARITAS** Schweizerische Eidgenossenschaft